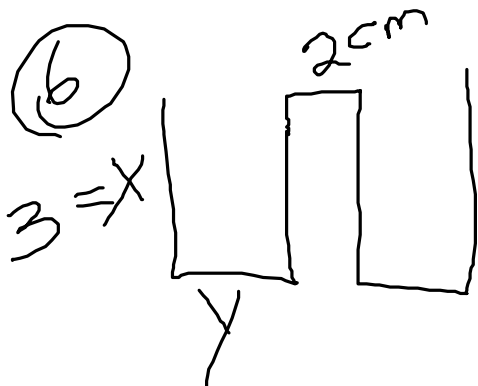


$$1000 = 4y + 3x$$

$$-4y = 3x - 1000$$

$$y = -\frac{3}{4}x + 250$$

$$A = x\left(-\frac{3}{4}x + 250\right)$$



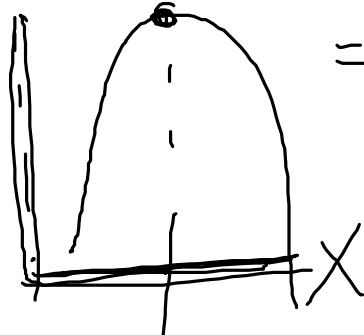
$$4x + 2y = 24$$

$$2y = -4x + 24$$

$$y = -2x + 12$$

let $x = \text{height} = 3\text{cm}$

let $y = \text{width} = -2x + 12$
 $= -2(3) + 12$
 $= 6\text{cm}$



$A = \text{height} \cdot \text{width}$

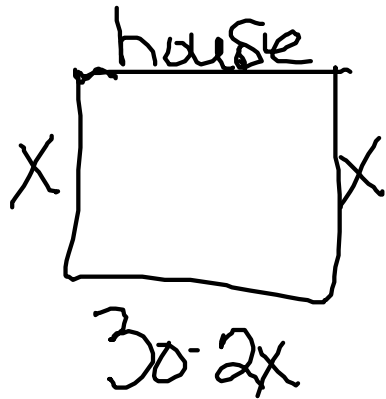
$$A = x(-2x + 12)$$

$$A = -2x^2 + 12x$$

$$x = \frac{-b}{2a}$$

$$x = \frac{-12}{-4} = 3$$

1) What is the largest garden?



$$A = l w$$

$$A = (30 - 2x)x$$

$$A = 30x - 2x^2$$

$$A = 7.5 \cdot 15 \\ = 112.5 \text{ m}^2$$

let $x = \text{width}$

let $30 - 2x = \text{length}$

$$30 - 2(7.5) = 15$$

$$x = \frac{-b}{2a} = \frac{-30}{-2} = 7.5$$

$$\text{width} = 7.5 \text{ m}$$

$$\text{length} = 15 \text{ m}$$